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P.O. Box 997				
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EXAMINER				
DITRANI, ANGELA M				
ART UNIT		PAPER NUMBER		
3676				
NOTIFICATION DATE		DELIVERY MODE		
06/18/2010		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/598,559

Applicant(s)

FREYER, RUNE

Examiner

Angela M. DiTrani

Art Unit

3676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/CD)
Paper No(s)/Mail Date 02/02/2010
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 5 recites the limitation "in reaction to exposure to the fluid in the space."

There is insufficient antecedent basis for this limitation in the claim. The requirement that the fluid is contained in the space is not claimed in independent claim 1, upon which claim 5 presently depends, but, rather, claim 4. Revision of claim 5 to change the dependency of claim 5 to be dependent upon claim 4 is advised.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-5 and 7-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Patel et al. (US 7,665,537).

With respect to independent claim 1, Patel et al. discloses a well system (Fig. 18), comprising: a device 12 which expands into a space in a borehole, the space being at least partly

defined by a castable material **107** disposed radially between and in contact with the borehole (see Fig. 18, wherein the borehole is surrounded by formation sections **102**, **103**, and **104**) and the device **12**, wherein the device **12** comprises an annular element disposed on a tubular structure **106** in the borehole and including an expandable material **99** which extends from a retracted state to an expanded state in response to contact with a fluid in the well system (col. 3, l. 7-43; col. 7, l. 35-col. 8, l. 9).

With respect to depending claim 2, Patel et al. discloses wherein the space is at least partly defined by a wall of the borehole (see Fig. 18, wherein the wellbore wall is not numbered, but is disclosed by Patel within the description of Fig. 18 at col. 7, l. 35-col. 8, l. 9).

With respect to depending claim 3, Patel et al. discloses wherein the space is at least partly defined by the tubular structure **106**.

With respect to depending claim 4, Patel et al. discloses wherein the space at least partly holds the fluid (col. 3, l. 44-51; col. 7, l. 31-34).

With respect to depending claim 5, Patel et al. discloses wherein the expandable material extends from the retracted state to the expanded state in reaction to exposure to the fluid in the space (col. 3, l. 44-51; col. 7, l. 31-34).

With respect to depending claim 7, Patel et al. discloses wherein the space comprises an elongated channel defined by at least the castable material **107**, the tubular structure **106**, and the borehole wall (see Fig. 18, wherein the wellbore wall is not numbered, but is disclosed by Patel within the description of Fig. 18 at col. 7, l. 35-col. 8, l. 9).

With respect to independent claim 8, Patel et al. discloses a method of sealing a space in a borehole, the space at least partly defined by a castable material **107** disposed in the borehole

(see Fig. 18), the method comprising the steps of: disposing on a tubular structure **106** at least one annular element **12** comprising an expandable material **99** capable of extending from a retracted state to an expanded state (col. 3, l. 7-43; col. 7, l. 35-col. 8, l. 9); installing the tubular structure in the borehole (col. 7, l. 29-36; col. 7, l. 51-59); then providing the castable material into a volume defined by a wall of the borehole (see Fig. 18, wherein the wellbore wall is not numbered, but is disclosed by Patel within the description of Fig. 18 at col. 7, l. 35-col. 8, l. 9) and an outer surface of the tubular structure **106**, the castable material extending at least partially circumferentially about the annular element **12** (col. 7, l. 36-50); and extending the expandable material into contact with the wall of the borehole (col. 7, l. 35-col. 8, l. 9).

With respect to depending claim 9, Patel et al. discloses wherein the disposing step further comprises disposing a plurality of annular elements **12** at spaced intervals along a length of the tubular structure **106** (see Fig. 18).

With respect to depending claim 10, Patel et al. discloses wherein the expandable material is adapted to extend from the retracted state as a reaction to exposure to a fluid in the space (col. 3, l. 44-51; col. 7, l. 31-34).

With respect to depending claim 11, Patel et al. discloses wherein the expandable material extends into the space after the castable material has hardened insofar as because the reference discloses wherein the inclusion of annular element **12** of swellable material **99** ensures the isolation of the permeable zones, even if the castable material **107** does not achieve this isolation or loses its capability to provide isolation through time (col. 7, l. 36-50).

With respect to depending claim 12, Patel et al. discloses wherein the space comprises an elongated channel defined by at least the castable material **107**, the tubular structure **106** and the

borehole wall (see Fig. 18, wherein the wellbore wall is not numbered, but is disclosed by Patel within the description of Fig. 18 at col. 7, l. 35-col. 8, l. 9).

With respect to independent claim 13, Patel et al. discloses a method of sealing an annulus in a borehole, the method comprising the steps of: positioning an expandable material **99** on a tubular structure **106**; installing the tubular structure **106** in the borehole, the annulus being formed between the tubular structure and the borehole (see Fig. 18); then flowing a castable material in the annulus, and the castable material being disposed radially between the expandable material **99** and the borehole, but leaving at least one space containing the fluid in the annulus (col. 7, l. 29 – col. 8, l. 3); and expanding the expandable material into the space in response to contact between the expandable material and the fluid (col. 3, l. 44-51; col. 7, l. 31-34).

With respect to depending claim 14, Patel et al. discloses wherein the positioning step further comprises positioning a plurality of sleeves **12** on the tubular structure **106**, each of the sleeves **12** including the expandable material **99**.

With respect to depending claim 15, Patel et al. discloses wherein the expanding step is performed in reaction to exposure of the expandable material to the fluid (col. 3, l. 44-51; col. 7, l. 31-34).

With respect to depending claim 16, Patel et al. discloses wherein the expanding step is performed at least partially after the castable material has hardened in the annulus insofar as because the reference discloses wherein the inclusion of annular element **12** of swellable material **99** ensures the isolation of the permeable zones, even if the castable material **107** does not achieve this isolation or loses its capability to provide isolation through time (col. 7, l. 36-50).

With respect to depending claim 17, Patel et al. discloses wherein the flowing step further comprises leaving the space so that the space is bounded at least partially by the castable material **107** (see Fig. 18).

With respect to depending claim 18, Patel et al. discloses wherein the flowing step further comprises leaving the space so that the space is bounded at least partially by the borehole (see Fig. 18).

With respect to depending claim 19, Patel et al. discloses wherein in the positioning step the expandable material comprises a swellable material **99** (col. 3, l. 44-51; col. 7, l. 31-34).

With respect to depending claim 20, Patel et al. discloses wherein the flowing step further comprises contacting a portion of the expandable material with the castable material, and contacting another portion of the expandable material with the fluid in the space (col. 3, l. 44-51; col. 7, l. 29 - col. 8, l. 3).

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
6. Claim 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Patel et al. as applied to claim 1 above, and further in view of Miller (US 2,230,626 – cited in previous action).

Patel et al. discloses the well system as stated above with respect to independent claim 1 wherein cement is used as the castable material that hardens and supports the casing by filling the annulus between the casing and the borehole wall. The reference, however, fails to teach wherein the castable material is concrete as presently claimed. Miller teaches that it is known within a method for cementing an oil well to surround the oil well with cement or concrete for

the purpose of sealing off a portion of the well from another (col. 1, l. 1-14). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute concrete as a castable material for the cement within the well system of Patel et al. in order to fill the space between the casing and the borehole wall and thereby support the casing therein since cement and concrete are known alternatives within the well bore art for sealing a portion of a well.

Response to Arguments

7. Applicant's arguments and amendments with respect to the objections to claims 5 and 15 have been fully considered and are persuasive. The objections have been withdrawn.
8. Applicant's arguments, with respect to the rejection(s) of claim(s) 1-5 and 7-20 under 35 USC 103(a) as being unpatentable over Bol in view of Bosma, as well as the rejection of depending claim 6 under 35 USC 103(a) as being unpatentable over Bol in view of Bosma, as applied to independent claim 1, and further in view of Miller have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection as presented above.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 7,066,259: Duggan et al. discloses methods of isolating a section of a drilled bore wherein a section of tubing is provided; the tubing is made of an elastomer that swells in the presence of hydrocarbon fluids and it expands upon contact therewith so as to conform to irregularities in the bore wall. The reference further discloses wherein cement may be injected between the tube and bore annulus. US 7,303,023: Harrall et al. discloses a method of sealing an

expandable tubular within a bore; the expandable tubular may comprise a material that swells and can be adapted to expand so as to compensate at least in part for reduction in the cement volume of a cement that is injected into the annulus subsequent to placement of the expandable tubular as the cement sets. US 7,380,594: Benzie et al. discloses a method of installing a tubular assembly comprising a plurality of expandable tubular elements in a well bore; a cement is placed between the tubular element and the well bore wall, and the element is expanded; US 3,918,523: Stuber discloses a system for implanting a casing in a well bore wherein a plurality of annular elements comprising a swellable material are placed along a tubular positioned in the well bore. The swellable material may comprise a material such as bentonite with cement; the material mixes with drilling fluid present in the annulus and swells so as to form a seal in the annular space.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela M. DiTrani whose telephone number is (571)272-2182. The examiner can normally be reached on M-F, 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on (571)272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jennifer H Gay/
Primary Examiner, Art Unit 3676